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The Adirondack Forests in Danger.

THE preservation of the Adirondack forests is a matter of national importance. Their destruction will work injury far beyond the limits of the State of New York. One of the principal commercial rivers of the world depends upon these forests for its existence; their value as a health resort for people from all parts of the United States is incalculable. Their preservation, therefore, is a matter which concerns the whole country.

Never have these forests been threatened with such dangers as now menace them from every side. Railroads are being built or are about to be built into the wilderness in every direction. The promoters of the Schenectady and Ogdensburg Railroad Company propose to build a line this summer directly through the heart of the Adirondacks, to serve as a feeder for the Canadian Pacific and bring that road into direct connection with New York and Boston. The Chateaugay Railroad Company is extending its line into the forest. Last year it had reached the shores of Loon Lake; now it has been carried to Saranac Lake. Its last station is only eight miles from Lake Placid and within six miles of Paul Smith's, upon St. Regis Lake. Adirondack Lodge, one of the wildest and most picturesque spots in the whole region, is now but fifteen miles distant from the railroad. The Northern Adirondack Railroad has penetrated through the forest almost as far south as Paul Smith's. Another road runs from Carthage, in Jefferson County, into the forest region. It has recently been carried to Jayville, in St. Lawrence County, and a further extension is proposed.

The building of railroads through a forest in this country means its extermination. This is particularly true of the Adirondack forest. Its escape from extermination in the past is due to the single fact that the hard woods of which it is principally composed could not be got to market from lack of transportation. If transportation is furnished it is merely a question of time when every tree will be consumed in the saw-mill, the paper factory and the charcoal furnace. Railroads will increase, too, the number of fires in the forest and thus hasten its extermination.

There is but one way to save what now remains of the Adirondack forests. The enactment of a law which shall prohibit the location of any railroad under any circumstances upon the State lands which are widely scattered through the entire region will prevent its ruin. No other measure less sweeping in its restrictions can accomplish this. There is a Board of Forest Commissioners in this State. It is the duty of these Commissioners to devise measures for the protection of the State forests and to see that these laws are put into execution. It is their duty to enlighten the people of the State upon the condition of the State forests and the dangers which threaten them. It is their duty under the law to provide instruction for the people of New York in all matters relating to forests and forestry, and to arouse them to the importance of a full comprehension of these subjects.

Have these Commissioners performed these duties?

Have they introduced any bill looking to restraining the building of railroads through the forests?

Have they even tried to rouse the attention of the public to this matter?

Do the reports which they publish from time to time, at no small expense to the people of this State, contain any valuable or accurate information in regard to the forests or to methods of forest preservation?

The only activity displayed by the Commission, so far as the public is informed, is manifested in their attempt to secure from the present Legislature the passage of a bill authorizing them to lease to "individuals or clubs for pleasure resorts or camping purposes," portions of the public domain for periods not exceeding five years' duration. This authority should not be given to the Commission. It would open the door to corruption and would threaten the forests with new dangers. Thousands of acres of Adirondack forests have already perished at the hands of hunters and camping parties. Their carelessness in setting fires and their recklessness in barking and destroying trees, are only too well known. It will be impossible to protect the State forests if the Commissioners are allowed this privilege.

The actual condition of the Adirondack forests and the doings of the Forest Commissioners during the three years they have held office need investigation. The public cannot afford indifference in this matter. Too much is at stake. The commercial and sanatory interests involved in the protection of these forests are too great to allow them to remain the prey of designing politicians and speculators.

A few years ago the concerted action of the press of this State roused public attention to the importance of preserving the Adirondack forests and the rivers which flow from them, and made the passage of forest laws and the appointment of a Forest Commission possible. The laws were rendered inadequate, and the people were cheated by politicians and speculators, who secured the appointment of an improper Commission. The result has been disastrous, and never in the history of the State has the danger to the forests been so real and imminent as it is to-day. The public must be enlightened and aroused to active interest in the matter; and the concerted and energetic action of the press of the whole country can alone accomplish this.

Horticultural Fashions.

IN the last fifty years there have been a number of horticultural fashions of longer or shorter duration. Just now the cultivation of Orchids chiefly occupies the horticultural world. Such fashions, while they have, perhaps, an unfortunate influence upon the gardening profession, are often otherwise beneficial. This was the case with the craze for Conifers which prevailed in England forty or fifty

years ago. It had the effect of driving out of cultivation a host of deciduous trees and shrubs of which gardeners who were learning their profession at that period never acquired any knowledge; but, on the other hand, it stimulated botanical exploration and vastly increased our knowledge of one of the most important and valuable families of plants. Had it not been the fashion to plant Conifers in England, it is probable that the Floras of the Californian Sierras, of the Andes, of the mountains of Mexico and Japan, of India and the Caucasus, would not be as well known as they are to-day. Other horticultural fashions have not been as productive of good. The fashion, for example, of massing together large numbers of a few varieties of tropical or semi-tropical flowering or bright-foliaged plants, known as the "bedding-out system," has little to recommend it from the point of view of the increase of human knowledge. And certainly no horticultural invention has done so much to limit the intelligence and practical skill of gardeners. Not much better has been the extravagant fashion of filling green-houses with what are known as fine-foliaged plants—inhabitants of tropical swamps. These plants rarely have conspicuous flowers, and their only interest is found in the curious shapes and markings of their leaves. They have not the graceful habit of many Palms; they cannot bear the temperature of ordinary conservatories and living-rooms, and can only be enjoyed in the reeking atmosphere of close, damp stoves. But no plants are more easily cultivated, and it is not surprising that they are favorites with gardeners trained in the "bedding-out" school—of which the taste for them is the natural outcome—and that they have driven out a multitude of beautiful flowering plants which it taxed the best gardening skill to bring to perfection.

The fashion for cultivating Orchids is not new. A few species were introduced into English gardens in the second half of the last century, and Orchids have been cultivated in the United States during the past seventy years. The taste for them shows no sign of flagging, but, on the contrary, has steadily increased, both in this country and in Europe, during the last half-century, and has never been so strong or so general as it is to-day. In the United States especially great progress has been made in the cultivation of these plants in recent years. They now form the principal attraction at many of our flower-shows, and two or three American collections rank with the finest in the world; and while as a nation we are not yet quite as crazy about Orchids as the English, the crowds which surrounded the tables at an exhibition of Orchids recently held in this city, and the high prices which these flowers bring in our markets, pretty clearly indicate the effect of fashion in horticulture.

The Orchid fashion has certainly much more to recommend it than many fashions of a similar kind. The love for cultivating these plants has done as much as any one single agency to make known the vegetation of the tropical parts of the world; their flowers, as Darwin taught us, are among the most wonderful of all the creations of Nature in their adaptation of means to ends; and many of them possess wonderful beauty of color and form. It is a question whether the most beautiful Orchid flower ever produced can equal the beauty and grace of the Poet's Narcissus, which was a favorite garden flower centuries before the first Orchid was cultivated and which will be a favorite centuries after three-quarters of the Orchids which collectors now hold so dear will be found only in their native haunts or in ancient volumes of the *Botanical Magazine*. Yet among the mass of Orchids now cultivated because they are new, or rare, or expensive, or odd, are many of very great beauty, and these will continue to be cultivated as long as the taste for horticulture lives. And the cultivation of such Orchids will increase in this country as they become better known and as people appreciate how easily they may be grown. The belief is still general here that Orchids are difficult to cultivate and can be made to flourish only in great heat. On the contrary, few plants are more easily grown if attention is given to a few of their simple requirements, and many of the finest varieties will thrive only in the low temperature of a cool green-house. Indeed, many Orchids will grow, as an English writer recently said of *Phalænopsis*, "with the calm complacency of the cabbage." There is, too, a fascination in cultivating these plants which increases with experience. But it must not be forgotten that any fashion, however solid the merits upon which it is founded, may easily be carried too far, and that there is great danger that this growing love of Orchids may lead to the neglect of other and equally interesting and beautiful plants. A one-sided development is as dangerous in horticulture as in other human pursuits.

Hardy Shrubs.

THE true value of hardy deciduous shrubs is not yet appreciated in this country. The climate of the Eastern and Northern States is peculiarly suited to develop, in the highest degree, the beauty of many flowering shrubs and trees. Our intensely hot summers, long, dry autumns, and cold winters ripen the flowering-wood and give results which are quite unknown in countries where the changes of temperature are less marked.

The development of American gardening has suffered greatly during the last fifty years from attempts to imitate English gardens in their composition. In our efforts to cultivate the Conifers and broad-leaved evergreens which thrive in England, we have overlooked the fact that our climate is not suited, save in exceptional instances, to bring out their beauty, and that it is a climate particularly adapted to deciduous plants. Thoughtful students of the relations between cultivated plants and climate now begin to realize that if we are ever to have in America a distinctive school of gardening, it must be based upon a comprehensive use of hardy deciduous shrubs.

These have other qualifications, in addition to their abundant flowers, to commend them to more general use. They are easily and cheaply raised. They are long-lived and increase in beauty from year to year. Their size adapts them to the small gardens which must always be more common than large ones in this country. Many deciduous shrubs and small trees also have the charm of brilliant autumnal foliage and conspicuous persistent fruits. The variety of such plants which can be made to flourish in our Eastern and Northern gardens is enormous. Few persons yet realize what a shrub-garden in Eastern America might be made. In such a garden could be gathered the shrubs of Europe and their innumerable varieties, the result of centuries of careful selection and cultivation—for European shrubs flourish here although European trees do not; and those of northern China and Japan, countries rich in plants of this description, which have already given us some of the most beautiful ornaments of our gardens—the Forsythias, Deutzias and Weigelas, the Flowering Quince, the Crabs and the finest of the Spiræas.

Such foreign shrubs—when shrubs are used at all—now beautify our gardens, and American species, although not less beautiful and better suited to our climate, are almost entirely neglected. The Flora of North America is rich in shrubs and shrub-like trees the more general cultivation of which cannot be too strongly urged. So numerous are they and so varied in character and beauty, that gardens planted with them alone—without any admixture of exotic material—might be made interesting and charming at every season of the year. What small trees excel the little known or appreciated American Thorns, beautiful alike in their spring flowers and their autumnal foliage and fruit, or the Shadbush and the Judas Tree when they enliven in early spring the borders of the leafless forest—the one with white bloom, the other with glowing pink? No tree is more striking than the Flowering Dogwood when its broad white bracts expand, or more splendid in its autumn color. And these would be followed by the Fringe Tree, by the Rattlebox with its branches covered in early

summer with myriads of drooping white bells, and by the Sour-wood with pendulous racemes of Lily-of-the-Valley-like flowers and with scarlet leaves in autumn.

And with these and many other native flowering trees, might be grouped an almost endless variety of shrubs blooming in succession from earliest spring to late summer, and brilliant with autumn tints or conspicuous fruit;—the delicate Rhodora which tinges our northern swamps with pink in early spring; the gorgeous orange-colored Azalea which flames on the slopes of many southern mountains; the deliciously fragrant Calycanthus and Clethra; a host of Dogwoods and Viburnums, beautiful in flower and fruit; Blueberries of many varieties, modest in flower but hardly equalled in grace of habit and richness of October hues; the Sumachs and the Black Alder which in winter enlivens northern swamps with its scarlet fruit. And in such a garden a collection of native Roses would not be the least attractive feature. We have here merely indicated some of the rich material within reach of American gardeners. But the subject will be elaborated in future issues of this Journal, and some of the most valuable and some of the least known American shrubs will be figured and described.

We are glad to publish the letter on landscape gardening which will be found upon another page, for the subject is one about which it is desirable to create discussion. The statement in the first paragraph, that landscape gardening as a fine art means something very different from the mere cultivation of ornamental plants and the designing of isolated minor decorative features, is undeniable. But we cannot agree with our correspondent when he thinks it needful to give the name of "landscape horticulture," or any narrowly distinctive name, to "the industrial art which shapes the ground, plants the trees, makes the walks and drives." The actual manual work of doing such things is, of course, artisans' work—work similar to that which masons and carpenters do for the architect. But to know how such things should be done seems to us an integral part of the equipment of the landscape gardener as an artist. Knowledge of this kind will not make him an artist. But he cannot be a good artist without it any more than an architect can be a good artist without a knowledge of building construction; and, on the other hand, it cannot itself be put to good service unless guided and inspired by artistic impulses, any more than a knowledge of building construction can. These two arts—landscape gardening and architecture—are like one another and unlike the other arts by reason of the fact that they can never be manifestations of the æsthetic instinct in a pure form. Practical considerations must always mingle with and largely limit and control æsthetic considerations when their works are in question. In the preliminary stages of education the acquirement of practical knowledge and the development of æsthetic feeling may seem distinct and different aims. But they should always be fostered together as far as possible; and to divorce them in theoretical expositions of the art of landscape gardening, in its practice, or even in its nomenclature, would be a grave mistake.

Nothing indicates so clearly the rapidly increasing scarcity of the more valuable woods produced by our forests as the gradual substitution for them in the markets of the country of woods which up to a short time ago were considered useless.

The wood of the Cottonwood (*Populus monilifera*) a few years ago had no commercial value whatever in the United States, and was used for fuel only on the plains, where nothing better could be obtained. Improved and stronger machinery, however, has made it possible to saw this wood into lumber in spite of its tough, difficult grain, and there is now a large demand for Cottonwood lumber throughout the West as a substitute for white pine and yellow poplar (*Liriodendron*) for light packing-cases of all kinds, immense quantities being manufactured at St. Louis and other places. The wood is found to possess the merits of cheapness and of greater lightness than white pine, and it is absolutely free from all odor or taste, valuable qualities in a case where articles of food are to be packed. It is also used for lining refrigerator-cars, and to some extent in the manufacture of cheap furniture.

The Cottonwoods, of which there are several species in the West and South-west, all produce wood very similar in quality, and are among the largest, most common and widely distributed trees along all the rivers west of the Alleghany Mountains. They grow with great rapidity, propagate themselves freely by their light seeds, and are more easily raised from cuttings than almost any other trees. The Cottonwood thrives also in the dry climate of the western plains and prairies better than almost any other tree. There is every prospect, therefore, that our supplies of Cottonwood lumber will not soon become exhausted.

A recent issue of the *Boston Journal* contains the statement that City Forester Doogue of that town had been experimenting with a preparation invented by him for the destruction of Canker-worms, with such success as to determine him to put it to general use on the city Elms. His method is to bore a hole, about three inches deep and an inch and one-half in diameter, in the trunk of the tree, and to insert a mysterious powder, the composition of which is known only to himself. The hole is then plugged up and made perfectly tight with wax. Boring and plugging trees with nostrums is an old and futile remedy; and it seems almost incomprehensible that a man occupying so responsible a position could be guilty of such quackery. The old way of using oil-troughs to stop the ascent of Canker-worms, if systematically carried out, is effectual in destroying them; and they might easily be exterminated if communities would combine in the use of such appliances.

Landscape Gardening.—V.

THERE is still one point which must be noticed as affecting the question how much the landscape artist owes to nature, how much to himself and his fellowmen. When we speak of "natural scenes" we are apt to mean, illogically, all those which have not been modified by the conscious action of art as art. We recognize a park landscape as non-natural; but those rural landscapes in cultivated countries from which the designer of a park gets his best inspirations—these, too, are non-natural. "If in the idea of a natural state," says an old English writer, "we include ground and wood and water, no spot in this island can be said to be in a state of nature. . . Wherever cultivation has set its foot—wherever the plow and spade have laid fallow the soil—nature is become extinct."

Extinct, of course, is too strong a word if we take it in its full significance. But it is not too strong if we understand it as referring to those things which are most important to the landscape gardener:—the compositions, the broad general pictures, of nature, have become extinct in all thickly settled countries. The effects we see may not be artistic effects—may not have resulted from a conscious effort after beauty; but they are none the less artificial effects. They do not show us what nature wants to do or can do—only what man and nature have chanced to do together. When English artists became dissatisfied with the formal, architectural gardening of the seventeenth century, they fondly imagined that they were learning from nature how to produce those effects of rural freedom, of idyllic repose, of seemingly unstudied beauty, grace and charm, which were their new desire. But, in reality, they were learning from the face of a country which for centuries had been carefully moulded, tended and put to use by man. In some of its parts, of course, the effects of man's presence were comparatively inconspicuous. But of most parts it could be said that for ages not a stream or tree or blade of grass had existed except in answer to his efforts, or, at least, in

consequence of his permission; and it was these parts and not the wilder ones which gave most assistance to the artist. An instinctive love for beauty had doubtless often tried to express itself in the neighborhood of dwellings, absent though the idea of art had been from the mind of their inhabitants; nature herself is so good an artist that even in her bondage she had worked admirably and with more suavity and gentleness than in her free estate; and the mere utilitarian treatment of the land had also accidentally given rise to happily suggestive features. Take, for example, the lawn, which is so essential a feature of almost every artistic design in landscape. It is not true to say, as often has been said, that nature never suggests a lawn. But it is true to say that she did not suggest it to those English gardeners who developed it so beautifully. They must have been inspired by the artificially formed meadow-lands and glades of the England of their time.

But all the semi-natural, semi-artificial beauty of England would not have taught them how to make beautiful parks and gardens had they not been taught as well by their own imagination. What they wanted to create were landscapes which should charm from all points of view and should bear close as well as distant examination; and, moreover, landscapes which might fitly surround the habitations of man and accommodate his very various needs and pleasures. Such landscapes we can no more expect to find in nature—even in cultivated, semi-artificial nature—than landscapes painted upon canvas. That is, while we can imagine a natural spot which would be an appropriate setting for a hunter's lodge or a hermit's cell, we can imagine none which would appropriately encircle a palace, a mansion, or even a modest home for a man with civilized habits and tastes. Every step in civilization is a step away from that wild estate which alone is really nature; and the further away we get from it, the more imagination is needed to bring the elements of existence which nature still supplies into harmony with those which man has developed. The simplest house in the most rustic situation needs, at least, that a path shall be cut to its door; and to do so much as cut a path in the most pleasing possible way needs a certain amount of imagination, of art. How much more, then, is imagination needed in such a task as the laying-out of a great estate where subordinate buildings are to be grouped around the chief one, and all are to be accommodated to the main unalterable natural features of the scene, where a hundred minor natural features are to be harmoniously disposed, where convenient courses for feet and wheels are to be provided in every direction, where gardens and orchards are to be supplied, where water is to be made at once useful and ornamental, and where every plant, whether great or small, must be beautiful at least in the sense of helping the beauty of the general effect? The stronger the desire to make so artificial an aggregate of features look as though nature might have designed it, the more intimate must be the artist's sympathy with the aims and processes of nature and the keener his eye for the special opportunities of the site; but also the stronger must be his imaginative power, the firmer his grasp of the principles and processes of his art.

M. G. van Rensselaer.

Bridge at Leathertor, England.

THIS very ancient bridge spans one of the small streams on Dartmoor, in the south-west of England. Its construction is sufficiently explained by the picture—two land-piers and one stream-pier are connected by long spanning-stones which carry parapets made up of large irregular blocks. It is hardly necessary to point out the degree to which this bridge combines picturesque beauty with durability, or to explain the fitness of such bridges for rural situations in our own country. In the immediate vicinity of a very dignified house so rude and unarchitectural a bridge would perhaps be out of place; and the same is true of those portions of an urban park where formality rules or where architectural works of importance are in view. But in the sequestered, naturally treated portions of parks, a bridge of this sort would be entirely appropriate; and carrying a road or footway near a country home of modest character or in a village suburb it would be a most charming feature. Naturally we have no wish to suggest that this bridge need be copied either in its special form or in the size and disposition of its stones, although in both these respects it would be an excellent model. It is illustrated merely to show how very simply a stone bridge may be built, and how incomparably better in effect it is than the ugly constructions of iron or the rough assemblages of planks with which in this country we are so familiar. Weather-beaten boulders as old as those in this bridge at Leathertor, and as appropriate for bridge-building, lie by every New England stream, and it would need no high degree of skill to put them to service. But we seem to have thought the bare, straight lines of iron more beautiful than the infinite variety of form and surface and color of our moss-grown stones. It is full time we changed our minds.

After the Great Snow Storm.

I GATHERED pink and white blossoms of the Spring Beauty on the 10th of the present month, and on the 12th they were under the drifting snow of what will pass into history as the great storm of March, 1888.

The wild weather of that day gave me no little concern with regard to the old trees near my house. As a consequence, I twice faced the storm at its height and took brief notes as to the action of the wind upon them. I was curious, too, to know which species was suffering most from loss of branches and general mutilation. The snapping and crashing heard above the wind's roaring suggested universal destruction. Judging from past wind-storms, I looked for the leveling of the fourteen Pines near the house, or at least that the trunks alone would remain standing; but these unaccountably escaped all serious injury and are still the same sorry-looking irregularities they have been for the last twenty years.

It is not a little strange that the long rows of White Pines planted by Joseph Bonaparte in his park near Bordentown, N.J., more than sixty years ago, have escaped serious breakage from wind, encrusting snow and ice-encased twigs—the three causes that have, separately and combinedly, effected the uncrowning and disfiguring of the Pines at home, which are no more exposed and scarcely three miles away. Do not these trees generally require planting in clusters, so as to be self-protecting, or to be intimately associated with other trees? A lone Pine is very pretty and poetical, but hereabouts it is as uncertain as the average white man.

But to return to the forest in the storm. Of a hundred or more large trees, Oaks, Chestnuts, Birches, Gums, Liquidambars, Persimmons, Catalpas, Beeches and Sassafras, occupying some three acres of southward sloping hillside, but one, a large Chestnut, was uprooted, and this was lifted bodily from the ground and carried several feet from where it had stood. The others were twisted; branches were interlocked, and several so shaken and wormed about that the closely wrapping Poison Ivy was detached, an occurrence I should never have dreamed could have taken place. Where branches were broken, they were, as a rule, detached from the trunk of the tree as though seized at their extremities and twisted off. Although the wind remained in one direction, it evidently became a whirlwind among the tree-tops, as shown by the direction of the fall of several large limbs. One large branch of an enormous Beech was broken off, but still holds by long cables of twisted strips of bark, as though the storm had repented and tried to repair the damage by tying it on again.

Of the several species of trees I have mentioned, no two are of like toughness in the texture of their wood, and in this storm the weaker and more brittle kinds did not suffer as much as the tough old Oaks. Nor were the detached branches worm-eaten and so abnormally weak. I was confronted with contradictions whichever way I turned. Associate these with wind having a velocity of fifty-four miles an hour and air full of sand-like snow, and realize how easily one could become bewildered.

In the more exposed upland fields not a tree suffered, the big Sassafras, sixty-two feet in height, not losing even a twig. Stranger still, the scattered Beeches and White Oaks that have retained their withered leaves all winter, hold them still. In short, the home woods suffered very little, and what damage there is occurred where I least expected to find it. Where the exposure was greatest, there every tree successfully weathered one of the severest storms on record. The shrubbery, seedling Oaks and Beeches, puny Cedars and trim little Junipers were bent to the ground and remained prostrate for three or four days. The snow has now melted and all are again erect;

but when I bent some of them to-day, as flatly as did the snow and wind, they cracked and were destroyed. Was it that the gradual pressure of the snow prevented the disaster that my more sudden bending caused?

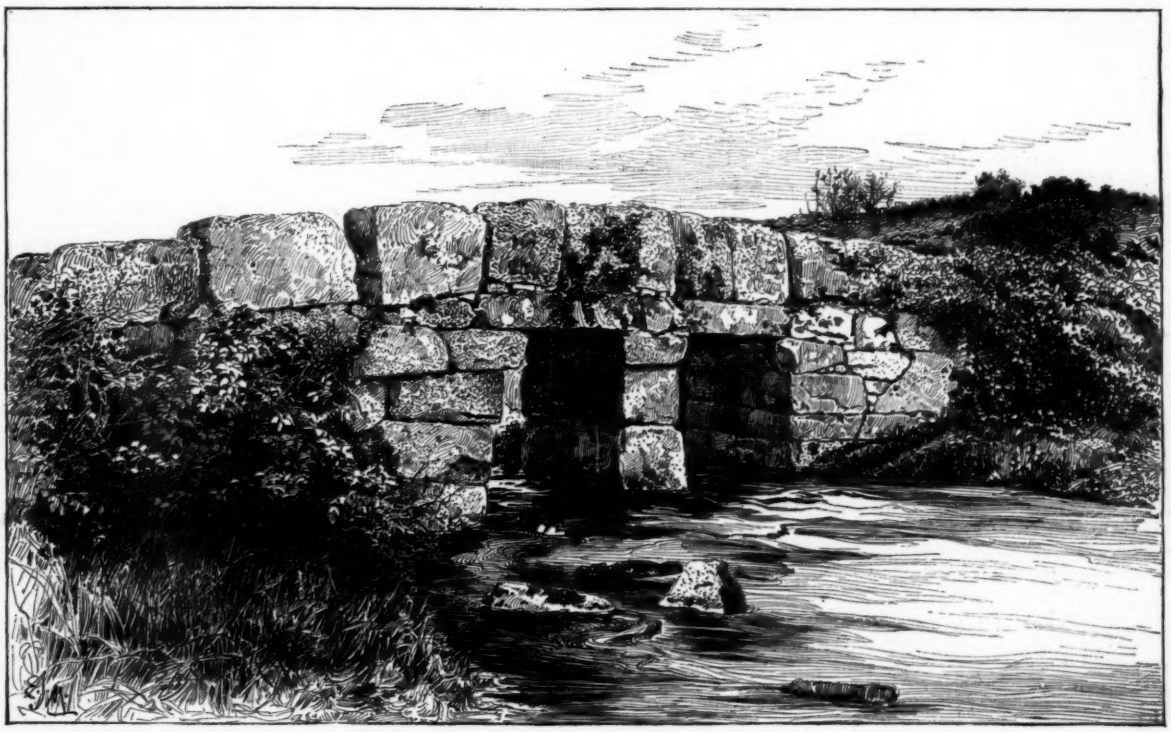
While I rejoiced at having my woodland still intact, there was one aggravating feature about it all. I anticipated a harvest of dead limbs for my andirons; but they too withstood the tempest. To-day they looked down at me with a tantalizing "no you don't" expression that robbed me of half the pleasure of seeing Black Alder laden with its crimson berries resting upon a dazzling drift of unstained snow.

Near Trenton, New Jersey. *Chas. C. Abbott.*

Foreign Correspondence.

The Kew Arboretum—II.

BEFORE giving details of some of the most important collections and of the most remarkable specimens here, it may be as well to say a few words regarding the general aspect and position of the Kew establishment.



Bridge at Leathertor, England, page 52.

The village of Kew is situated on the right bank of the Thames about six miles from Hyde Park Corner, and was a royal residence as far back as the reign of Henry VIII. The chief entrance to the Gardens (there are five public entrances altogether) is upon Kew Green, one of the most delightful of the tree-shadowed stretches of sward which form such a pleasant feature of many of the villages in the neighborhood of London. About three hundred yards in a westerly direction from the large and handsome wrought-iron gates stands the Dutch House, or, as it is now always called, Kew Palace, a homely structure of red brick, said to have been erected in the time of James I. by Sir Hugh Portman, a Dutch merchant knighted by Queen Elizabeth. Here it was that Queen Charlotte died. The palace is just outside the garden boundaries and is the property of Her Majesty Queen Victoria. Turning to the left, at a right angle, the main walk—one of the most frequented of the Kew promenades—leads towards the ornamental water in front of the great Palm House. From the Palm House there is a magnificent avenue of Deodars, terminated—at the Richmond limit of the Arboretum—by the Pagoda, one of the remaining fantastic creations of the first Queen Caroline. Leaving the Richmond entrance to the left and skirting the Old Deer Park—in which stands the Kew Observatory—we pass through the collections of Cypresses, Yews and their allies, until we reach the Pines and Firs, which are arranged at the head and along the southern side of a noble expanse of ornamental water whence the supplies for garden purposes are pumped by engines at some distance away in the wood. Just across the Thames at this point is Syon House, a place rich in historical associations. A little to the left is the Isleworth entrance, and on the left bank of the river a short distance up the stream, is the pretty village of Isleworth. Following the course of the Thames we go through a very rich collection of Oaks; behind this strip and between it and the wood is a dell in which Rhododendrons luxuriate. After the Oaks come the Elms, and the extremely numerous and very varied forms of our native species are particularly puzzling. The Oaks and Elms practically occupy a considerable tract of ground, the whole length of the river frontage of the Arboretum; here and there, however, are groups of Conifers to block out the sight of the Brentford docks on the opposite bank of the stream. Not far from here Edmund Ironsides defeated the Danes in 1016, and more than six centuries later Prince Rupert gained a victory over the Parliamentary troops.

A good proportion of the Arboretum (which covers an area of over 178 acres) is occupied by noble stretches of Oak and Beech woods, with here and there fine specimens of Spanish Chestnut, Horsechestnut and other large trees. Under these grow countless thousands of Wild Hyacinths, or, as they are commonly called in many parts of this country, Blue-bells (*Scilla nutans*). When in flower in May and June the magnificent masses of color attract large numbers of artists. Visitors, too, from central and eastern Europe, whether botanically inclined or not, are struck with the sight.

The Botanic Garden proper is about 70 acres in extent and is famous for its beautifully kept lawns, flower-beds, and single specimens and groups of miscellaneous deciduous and evergreen trees and shrubs arranged for landscape effects—not planted in botanical sequence.

The Arboretum is frequently called the Wilderness, and under this name it is mentioned in "Shandon Bells" by William Black, who makes the hero, Fitzgerald, and his artist friend, John Ross, "go splashing through the mud to Kew, to see what the wilderness part of the Gardens (a favorite haunt of theirs and but little known to the public) was like in driving rain, or in feathery snow, or in clear hard frost, when the red

berries shone among the green." The red berries mentioned by the novelist are those of the English Holly (*Ilex Aquifolium*), of which there are many very fine trees. This Holly, which is made to play so important a part in some of Dickens' tales and in English 'Christmas' literature generally, has brighter red berries and dark green very glossy leaves, and altogether, as an ornamental shrub or tree, is much more attractive than the American Holly (*Ilex opaca.*)

Royal Gardens, Kew. *George Nicholson, A. L. S., Curator.*

Yucca Treculiana.

THE illustration of this fine tree (Fig. 10 on opposite page), the "Spanish Bayonet" or "Spanish Dagger," of western Texas, is from a photograph of a plant grown in the city of Austin, where, as in other towns of western Texas, it is quite commonly cultivated and forms the most conspicuous garden ornament. Dr. Engelman's very complete description of this species renders it unnecessary to say anything of its botanical characters. The Spanish Bayonet becomes, under favorable conditions, a tree sometimes thirty feet in height, with a slender trunk and wide-spreading branches.* It is common through south-eastern Texas, and extends south across the plains of northern Mexico, where it is associated with *Yucca filifera*, as far south as Saltillo and Parras. It forms on the Texas coast near the mouth of the Rio Grande, just back of the sand dunes, straggling, stunted forests; and further inland low, impenetrable thickets.

Yucca Treculiana was introduced into Europe by the French traveler Trécul, whose name it commemorates. According to Naudin it is very hardy in the south of France, where it flowers freely. *C. S. S.*

Cultural Notes.

Hardy Herbaceous Perennials from Seed.

FROM the time the winter Aconites, Snowdrops and Crocuses appear in earliest spring till the bold Tritomas are cut down by hard frost in November, we have among hardy herbaceous perennials an uninterrupted display of flowers. But in order to have them so that we can best enjoy them we must have masses of the finer sorts rather than a single plant of each. Individuals are lost in a landscape; there we want broad colonies of a kind. In the decoration of our gardens one Phlox or one Tulip is of no avail; we want a clump or mass of each. For cut flowers one Iris or one Coreopsis would not help us much; we must have several.

How best to increase our stock of plants and variety of kinds must therefore concern us. *Helianthus, Plumbago Larpentæ, Veronica, Phlox* and many others may be readily increased by division, but *Aquilegia, Delphinium* and *Pentstemon* should be multiplied by seed. True species usually come true from seed, but garden varieties should, in order to keep them true, be perpetuated by division or cuttings. The seeds of some perennials, Fraxinella, for instance, are slow and uncertain to germinate; those of others, the Virginian Spiderwort, for example, come up with the persistence of weeds.

In growing herbaceous plants from seed, the amateur should begin with such sorts as are easily grown, for most perennials are more difficult to raise than are annuals, and need not only care before the seeds germinate, but considerable attention after the seedlings appear. He should also limit his list to suit his garden needs. If his desire is to furnish a small rockery, then choose *Erinus alpinus, Erysimum rupestre, Dianthus alpinus* and the like; if for edgings in his garden, then grow *Armeria, Globularia, Chrysanthemum Tchihatchewii* and evergreen Candytuft; if for showy flowers, try Oriental Poppies, perennial Larkspurs and Kœmpfer's Irises.

In raising perennials from seed we can begin at any time: as soon as the seed is ripe and before winter sets in; in the greenhouse in winter or hot-bed in early spring; or in a cold-frame or out-of-doors in late spring. What perennials I raise from seed and do not sow in fall I try to sow and get off my hands before I begin to sow annuals in spring. Be careful not to sow slow-germinating seeds in warm quarters, as a hot-house or hot-bed, else the chances are that the seeds will rot; but seeds that were sown in boxes in fall and wintered in a cold frame, may be introduced to the green-house in spring with quickening effect.

For convenience sake I treat many perennials as annuals; they germinate and grow readily, and bear a full cup of flowers and seeds the first year. Among these are *Abronia, Ageratum, Dahlia* (single-flowered), *Delphinium grandiflorum, Eschscholtzia Californica, Gaura Lindheimeri, Leptosyne maritima, Lophospermum scandens, Mirabilis Jalapa, Salvia splendens* and *S. farinosa.* Of course some of these, as *Dahlia* and *Lophospermum*, are not hardy, but, treated as annuals, it matters not whether they are hardy or tender.

If sown early many perennials will bloom freely the first year. These include *Anemone coronaria, Anchusa, Cedronella cana, Conoclinium, Delphinium, Echinacea, Gaillardia, Incarvillea Olgæ, Lychnis, Malva, Platycodon, Pyrethrum, Salvia pratensis, Sidalcea,* and *Stachys coccinea.* Now, while *Coreopsis lanceolata* if sown early in spring will bloom here towards fall, I am informed that in Vermont it will not bloom at all the first year from seed. And the same is true of many other perennials.

There are many kinds of perennials that I have never known to bloom the first year from seed. These include *Aquilegia, Anthericum, Arabis alpina, Asclepias tuberosa, Astrantia, Baptisia, Betonica, Bocconia, Buthalmum, Callirhoë, Chieranthus alpinus, Erysimum rupestre, Globularia, Lathyrus latifolius, Iris, Lilium, Œnothera Missouriensis, Orobus vernus, Statice latifolia, Tritoma* and *Veronica longifolia.*

Perennials that bloom in spring, for instance *Crocus, Scilla Sibirica, Trillium* and *Sanguinaria* (all of these self-sow themselves abundantly), seldom bloom the first year from seed; but we have an exception in the case of *Anemone coronaria.* On the other hand, perennials that bloom in fall, if sown early often bloom the same year—for instance, Hollyhocks, *Hyacinthus candicans,* and *Montbrietia crocosmiæflora* (not quite hardy).

Many perennials, when once established, self-sow themselves abundantly. Among these are *Delphinium, Coreopsis, Gaura Lindheimeri, Salvia farinacea, Dianthus* and *Digitalis.* Of these, Foxgloves make good perennials with me in sandy land, but in clay soil I have never found them to be satisfactory other than as biennials. Sweet Williams often live over as perennial, but in all cases I have had the best success with them as biennials. And the same is true of *Lychnis grandiflora, L. fulgens, L. Senno,* and the many varieties of *L. Haageana.* While many of the commoner Pentstemons, as *P. ovatus, P. diffusus* and *P. pulchellus*, self-sow themselves with great freedom, the finer species, as *P. Eatoni, P. Palmeri* and *P. Cobæa,* have never, under my care, produced any self-sown plants. But at Woolson's, at Passaic, I have seen numbers of self-sown plants of *P. grandiflorus.* While *P. diffusus, P. ovatus.* and *P. lævigatus* make pretty good perennials, I always have had most success with the other species when they were treated as biennials. The seed should be sown as soon as ripe.

Many perennials germinate as readily as do annuals. Among these are *Anthemis, Aquilegia, Arabis, Armeria, Chrysanthemum, Conoclinium, Delphinium, Dianthus, Digitalis, Eupatorium, Gypsophila, Iberis, Iris, Lobelia, Lychnis, Malva, Pentstemon, Primula, Sedum, Sempervivum, Thalictrum, Thymus, Tritoma, Viola* and many others. But all the species of these genera do not germinate with equal facility—for instance, while *Pentstemon ovatus* comes up thickly and in about nine days, *P. cobæa* never comes up a full crop nor regularly. And the freshness of the seed has a great deal to do with its germination. I have never succeeded in raising plants of *Dictamnus, Primula Japonica* or *P. rosea* from seed a year old. Seeds of leguminous plants, especially of *Thermopsis* and *Baptisia,* even if the seed is fresh, germinate very irregularly. I have had a fair crop come up within a month after sowing, and the balance of the seed lie in the ground for a year and then grow. While *Lilium tenuifolium* and *L. pulchellum* will come up a full crop within a fortnight from sowing time, I have found that *L. auratum* and *L. superbum* take several months before they germinate. Seeds of *Clematis graveolens* and *C. tubulosa* germinate readily in a few weeks, but the hybrids so common in our gardens take months.

All hardy perennials, except such as we treat as annuals, had better be sown in late summer or fall; in fact, as soon as the seed is ripe. By this means, in the case of seeds that ripen early and germinate readily, as *Aquilegia, Aubrietia, Alyssum saxatile,* and the like, we can have fine strong stock before winter sets in, and which will bloom nicely next year. In fact, in the case of most all, except some Lilies, Clematises, Pæonies, Hellebores, Globe Flowers, and Siberian Corydalis, which if sown as soon as ripe do not germinate till the next spring, and Gentians and Composites that bloom late, we may reasonably

**Yucca Treculiana,* Carrière, *Rev. Hort.* 1858, *p. 580*; 1861, *p. 305*; 1869, *p. 406, f. 82.*
Y. canaliculata, Hook, *Bot. Mag. t. 5201* (1860).—Baker, *Gard. Chronicle,* 1870, *p. 828*; *Jour. Linn. Soc. xviii., p. 226.*—Engelm., *Trans St. Louis Acad. iii., 41.*—London *Garden, xii., p. 328, t. 94.*—Sargent, *Forest Trees N. America, vol. ix., 10th Census U. S., p. 218.*—Hemsley, *Bot. Am. Cent. iii., 371.*
Y. longifolia, Engilm. in *Sched.*—Buckley, *Proc. Phil. Acad. xiv., p. 8 (1862).*

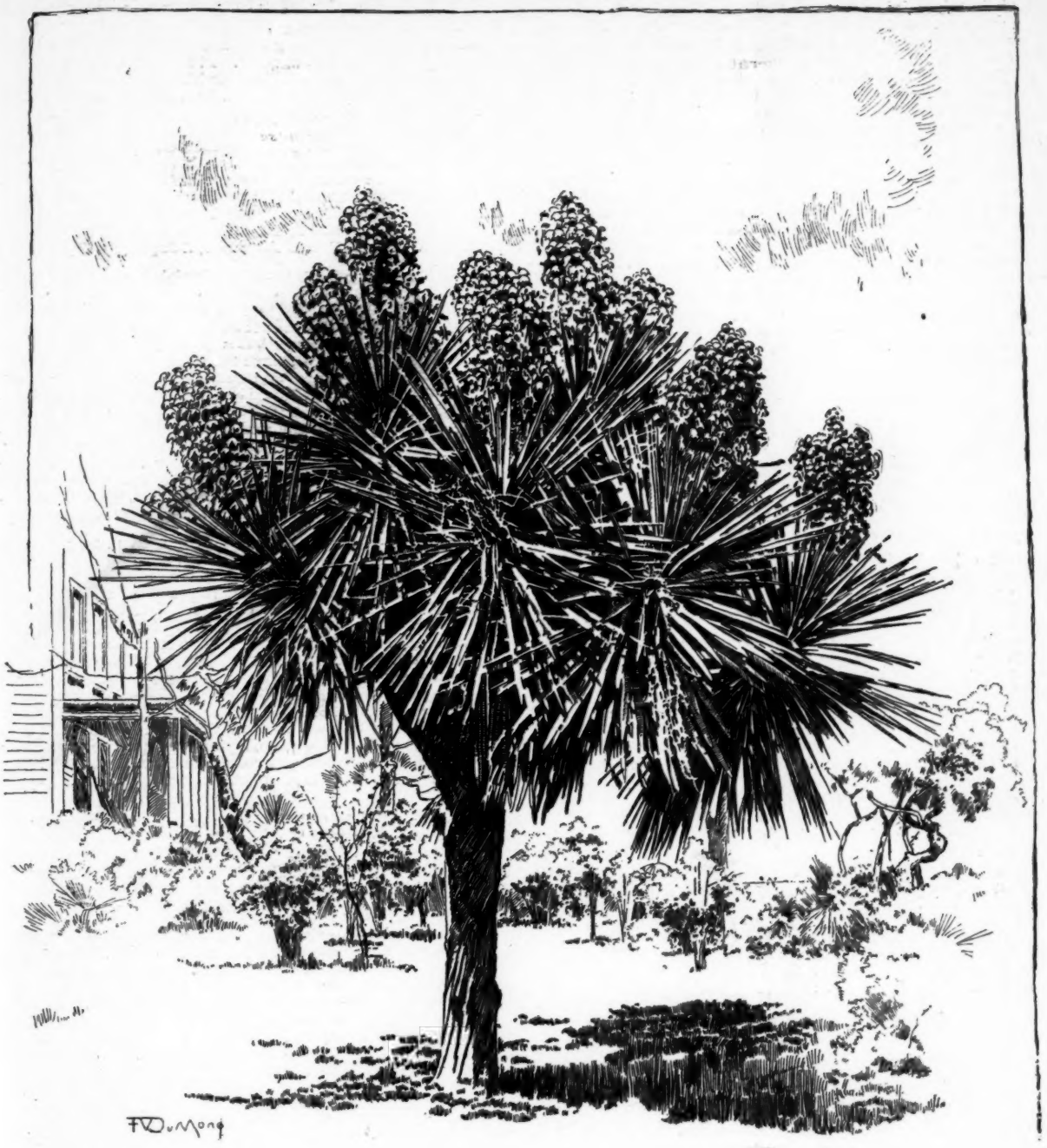


Fig. 10.—Yucca Treculiana.

expect to get strong stock to keep over in beds or cold-frames.

I make two sowings, one as soon as the seeds are ripe as stated above and another in November. This last sowing includes *Aster, Adonis, Aconitum, Asperula, Astragalus, Baptisia, Clematis, Dicentra, Epimedium, Euphorbia corollata, Gentiana, Gillenia, Heleborus, Hepatica, Lilium, Iris, Mertensia, Monarda, Orobus, Phlox, Polygonum, Pæonia, Trollius, Uvularia* and *Viola*. These are sown in flats (shallow boxes) filled with sandy soil, and a thin layer of moss is laid over the surface to prevent undue drying. The boxes are then placed in a cold frame, there to remain over winter. Very few of the kinds will germinate before spring, but most all will come up the following April or May, when the moss should be removed from about the seedlings, and they attended to in the way of light, ventilation, water and transplanting. *W. Falconer.*

The Cultivation of Lilies.

A COLLECTION of rare Lilies is seldom seen in our gardens, and yet no other class of plants is more greatly desired or as often tried.

Experience with Lilies has convinced me that nearly every variety can be successfully grown with as little trouble as any other plant of equal merit, and that failure is in the main due to overestimating their hardiness. It is the general opinion of those having authority to speak for the Lily, that, with but few exceptions, the species are perfectly hardy. This opinion finds encouragement in the "Cultural Instructions" of nearly every catalogue, and the trustful planter who does not take the proper precaution loses his bulbs. Nearly all the species are natives either of cold or temperate climates,

and therefore it is assumed that all can endure the rigor of our winters. But the fact is that few of the species are truly hardy in this climate except those indigenous to the soil. While it is true that some of the species are found in the coldest part of the habitable globe, growing most luxuriantly, it is equally true that the same species cannot endure our winters without protection. Few climates are so trying as our own to those bulbous-rooted plants, which are usually considered hardy and left in the open border during the winter. This is particularly true of the coast climate, from Massachusetts to Virginia, where there is frequently forty degrees of frost, and not a particle of snow on the ground for protection. Here the earth is frozen to a great depth one week, and thaws out the next. These frequent changes from water to ice and back again cause the earth to contract and expand to such a degree as to tear the bulbs in pieces. I have seen large plantings destroyed in this manner.

But to be more specific. The beautiful *Lilium tenuifolium* is a native of Siberia, where it is largely cultivated as an article of food. Of course it can endure a Siberian winter, but a Long Island winter kills it. Why? Because in its original home the first indication of winter is a snow-storm which covers the ground so thickly that frost rarely, if ever, penetrates it; while here the unprotected earth is frozen far below the Lily bulbs over and over again between November and April. The same is true of the *Lilium Martagon*, the bulbs of which are much valued by the Cossacks as a vegetable. With them it is perfectly hardy; in our warmer clime it will rarely survive more than a single winter without protection, but with that precaution it grows with more vigor here than in its native home.

The White Turk's Cap Lily (*L. Martagon alba*), in the northern parts of New York, in the Eastern States and in Lower Canada thrives with all the vigor of a native plant. So common is it in one locality in St. Lawrence County, N. Y., that a friend sent the writer some flowers for name, saying it was a common wild Lily, but she could not find it described in Gray's "Botany." Here we can only grow it in a cold-frame; because it misses the blanket of snow that covers it in Germany, its native home, and in our own more northern latitudes.

In Vermont, where the ground is nearly always covered with snow during winter, all kinds of Lilies grow to the greatest perfection. We have seen finer bulbs of the *L. auratum, L. Brownii, L. chalcedonicum, L. Martagon*, and other species, grown in that State without the slightest artificial protection, than we have ever known produced in any other country.

There are many other plants protected by snow in a similar manner. We notice on the Alps, at an elevation that permits of but four months of spring, summer and autumn, that the wild Primrose grows in the greatest profusion and luxuriance. It is there constantly covered with snow during their long periods of freezing weather. In the valleys below, where there is no snow and but little frost, the same plant will not live through the winter unless carefully protected.

All that Lilies require for their perfect development and rapid increase is protection against frost, and this is a simple and inexpensive operation. The best and most natural covering is about six inches in depth of newly fallen leaves, kept in place by a few boughs or pieces of board. Salt or marsh hay will afford excellent protection; corn-stalks answer a good purpose; in short, whatever material is the most convenient is the best to use, if it will only protect the bulbs against a temperature that changes repeatedly from one side of the frost line to the other. *C. L. Allen.*

Eriostemon intermedium.—This is a South Australian shrub with rigid branches, small, shining, dark, pungent, evergreen leaves, and white flowers tinged with pink. These are axillary and borne in profusion along the primary and secondary branches. *Eriostemon* belongs to the same family as the Orange, which it resembles in the size and shape of its flowers. This is one of those beautiful, old-fashioned hard-wood plants which should be more often seen in our collections. It is very easily cultivated and should be potted in turfy peat mixed with sand. It requires careful drainage and the protection in winter of a cool green-house. In this climate it should, in summer, be plunged out of doors, in partial shade. It flowers in March. A figure of *Eriostemon intermedium*, which is considered by Bentham in his Flora of Australia as simply a form of *E. myoporoides*, was published in the *Botanical Magazine, t.* 4439.

Boronia megastigma is another Australian shrub of the Rue family, which is too rarely seen in our collections. It is chiefly valuable for its deliciously fragrant flowers, a small spray of which will scent a whole room. *B. megastigma* is a slender, delicate shrub, sometimes two feet high, with erect branches and spreading opposite branchlets. The flowers are very freely produced from the axils of the sparse, linear leaves towards the ends of the branches. They are solitary, drooping, about half an inch in diameter and sub-globose; dark red-brown on the outside and clear yellow within. This plant, which is now quite commonly cultivated in some London nurseries on account of the fragrance of its flowers, requires cool green-house treatment and should be potted and grown like a Cape Heath. It flowers in March and April. A figure of *B. megastigma* was published in the *Botanical Magazine, t.* 6046. *C. S. S.*

Milla biflora in our Gardens.—Mr. Pringle's interesting note, p. 20, reminds me that four years ago a large consignment of *Milla biflora, Bessera elegans*, and some other bulbs, from Mexico, were disposed of at auction in New York at ridiculously low prices. Most of these bulbs were purchased by Long Island growers, and have, since then, been grown by some of our florists for cut-flowers in summer, for the New York market. The bulbs are planted out in rows in spring, and cultivated by horse power as we do Tuberoses and Gladioli; in the fall they are lifted and treated like Gladioli or Tigridias. While out-of-doors in summer they grow well and bloom beautifully, seldom bearing fewer than two, oftener seven or nine flowers on a scape. The flowers are white and showy, and were picked every day for market. When left unpicked they set and ripen seed freely. Seeds germinate easily.

Lilium Grayi.—I found this rare Lily, figured p. 19, perfectly hardy at Cambridge, Massachusetts, and as amendable to cultivation as were *L. Canadense* or *L. superbum*. Referring to my note books I find: "1882, July 2d—*L. Grayi* in full bloom; *L. Canadense* not yet in bloom, but its flowers are ready to open." "1883, July 2d—*L. Grayi* in full bloom; *L. Canadense* also in full bloom." The two species were growing near each other in the garden. Their general contour, to a casual observer, is very much alike. The most striking difference is in the flowers; while those of *L. Canadense* are always nodding and the petals reflexed, those of *L. Grayi* are never quite pendulous nor widely open, nor are the petals at all reflexed. The flowers of *L. Grayi* are of a darker red color than are those of the ordinary red *L. Canadense*, and the inner surface of the petals is more thickly spotted with dark purple spots.

Forcing Azaleas.—In order to have Azaleas to bloom early get them to make their growth early. It is not well to take plants that are in bud and bring them into brisk heat in order to bring them into bloom; better bring them into heat after they have finished blooming and get them to make their growth early, and in this way advance their time to bloom.

Cytisus Canariensis.—As soon as it has done blooming cut it back enough to give the plants a shapely, stocky form; then give them a thorough washing in warm water (at a temperature of 125° Fah.) to rid them of red spider, to which they are very subject, and a fortnight after repeat the washing. Do not repot them till they have started into fresh growth. It does not pay to keep over old plants; raise a few fresh ones from cuttings every year. Cuttings of the young wood strike freely. The plants are in their prettiest condition when they are two to three years old. *W. F.*

Grapes for Home Use.—I cordially agree with Mr. Williams' notes on a choice of varieties. The kinds he has named have thrived well on my grounds and have yielded good fruit. The shores of the Hudson are better adapted to the growth of the vine than the greater part of New Jersey, and we can cultivate successfully some of the more delicate and fastidious sorts. The Iona appears to me to be the most delicious of all the Grapes and is well worth a trial. The Agawam and the Lindley have proved with me good growers and abundant bearers. The fruit is superior in quality, but the clusters are rarely compact and handsome. This defect is of minor consequence in the home garden, where flavor is of the first consideration. On warm, well-drained slopes I can ripen the Isabella and Catawba, and I should be sorry to be without these old and superb varieties. We need late as well as early Grapes. The Bacchus is known almost exclusively as a wine Grape, but about the middle of October it becomes a fine table sort. I have about 112 varieties growing on trial, and hope to be able hereafter to offer some more definite and practical notes.

E. P. Roe.

The Retinisporas.

THE generic title of *Retinispora* for a peculiar group of Japanese Conifers, is quite expressive, as it relates to its main distinctive feature, *i. e.*, "retine," resine, and "spore," seed, in allusion to the numerous little resinous vescicles found dotted over the surface of the seed-covering.

Since this genus was established by Siebold and Zuccarini, these resin-dots have been detected in other members of the *Cupressineæ*, notably in *Cupressus Lawsoniana*, and as the other characters were unimportant, *Retinispora*, consequently, can not longer stand. Dr. Maxwell T. Masters, in his admirable paper on the "Conifers of Japan,"* read before the Linnæan Society of London, has very justly reduced the former genera *Retinispora*, *Biota*, *Chamæcyparis* and *Thuiopsis*, to sections of the old genus *Thuya*, and after a careful examination I am ready to concur in his classification.

The object of this paper is to review briefly the most valuable Conifers which have been popularly cultivated under the heading of *Retinispora*, but in the interest of correct nomenclature it has been deemed advisable to adopt Dr. Masters' arrangement.

Perhaps the most satisfactory species for all purposes, is *Thuya pisifera (R. pisifera)*, a medium-sized tree found in various localities throughout Japan, especially in the mountain districts. This Conifer has proved entirely hardy in the Middle States, growing rapidly when fully established, and forming graceful and attractive specimens with little care. The following have been reduced to varieties of the above species, and although differing widely in general appearance, the organs of fructification in every instance point conclusively to their origin.

Var. *plumosa* (*R. plumosa*) is one of the most valuable forms of this group. The young branchlets have been compared to ostrich plumes, on account of their graceful habit and feathery growth. It forms a compact, small specimen, with numerous small, pointed, bright-green leaves, and in rich, light soil soon forms a conspicuous object on the lawn. The variegated sport from this variety is one of the most distinct and best Conifers of its class for planting in the mixed Conifer border, and its rich, golden tints, especially in early summer, brighten up a mass of dark foliage with remarkable effect.

There is another attractive sport from this variety that has been introduced into our collections under the name of *R. plumosa argentea*. It differs from the above in having numerous little pure white dots scattered over the foliage in an interesting manner. It has the merit of not scorching as so many variegated plants do, and although not remarkably distinct, it is nevertheless entitled to notice.

Var. *squarrosa (R. squarrosa)* of Veitch, for there are two distinct forms of this variety under the same name, is perhaps next in importance as a small evergeen tree. Although it is claimed by some writers to be a form of *T. obtusa*, the fruit is identical with *T. pisifera*. An accidental sport from a specimen growing in the Lawsons' nurseries, at Edinburgh, afforded additional evidence of its pisiferoid character. It is a remarkably elegant, dense-growing Conifer, with peculiar silvery foliage, and is rarely injured by the severity of our winters after reaching the age of eight or ten years. To preserve a fine conical outline, specimens should be sheared annually for a few years after planting. The other form, which is known in some collections as *R. squarrosa* of Siebold, is not so hardy as the above, and is undoubtedly nothing more than *T. pisifera* or *T. obtusa* in an abnormal state. It is rarely satisfactory excepting when very young.

Var. *filifera (R. filifera)* is a peculiar form with the same whip-like branches and branchlets that characterize the pendulous variety of the Chinese Arbor vitæ; indeed it has been surmised that this variety may be another form of *Thuya orientalis*. It is, however, much more elegant than the latter, being entirely devoid of stiffness, and in time develops into a large evergreen shrub with the outer surface completely covered with a mass of slender, drooping, bright-green shoots. It is quite hardy, and desirable even in the smallest collection.

Var. *aurea (R. pisifera aurea)* is a distinct and showy form that originated in an English nursery a few years since. The foliage, both old and new, is plentifully marked with a bright golden-yellow tint, which, in partial shade, is retained throughout the summer months. In some localities it becomes discolored when exposed to the full rays of the sun. It is very distinct when placed among other forms.

T. obtusa (R. obtusa) is a hardy, valuable tree for this country, although inferior as an ornamental specimen to the preceding species. On the Island of Nipon, in Japan, it attains a very large size, and forms extensive forests, the timber being in great demand. Its general aspect is open, and on this account it will not prove so popular as many of our own Conifers. This defect, however, may be remedied in a great measure by a systematic annual pruning in the tree's younger years, to increase the number of its branches. It is readily distinguished from *T. pisifera*, but more especially in the size of its strobiles, which are from seven-eighths of an inch to one inch in diameter, while those of the latter are only three-eighths of an inch in diameter. The varieties of the two species are also very distinct. As is the case with most Conifers of long cultivation *T. obtusa* has many curious morphological forms. Some of these are very attractive and deserving of general cultivation, but others are unworthy of dissemination.

Var. *lycopodioides (R. lycopodioides)* is the most distinct of all of these recognized varieties, and with generous culture in proper soil it is exceedingly pleasing. The foliage is of the darkest shade of green, and is remarkable in its arrangement, frequently imparting to the numerous short branchlets an appearance of dark-green coral. The habit of the plant is rather dwarf, dense, and irregular in outline, at least for several years after planting, and its constitution is hardy and reliable. In fact, it may be classed as one of the best of this group for general cultivation.

Var. *filicoides* (*R. filicoides*), the elegant fern-like variety of this group, is entirely satisfactory when in its young state, but we have no knowledge of its behavior at maturity, or even at eight or ten years of age. Its cones although smaller than those of its parent show the specific relationship. Many of the small branchlets are flattened out in a peculiar manner which has been likened to the fronds of a fern. The color is especially pleasing, being of a bright-green tint, with the usual glaucous lines on the under side. It appears to withstand the severity of our variable winters as well as its congeners, and in congenial soil quickly develops into a charming evergreen shrub. Judging by its manner of growth, however, it may not become so dense as some, but its other pleasing characters may recompense the owner for the loss of this.

Var. *nana* (*R. obtusa nana*), and Var. *pygmæa* (*R. obtusa pygmæa*), are choice little dwarfs, best suited for the outer edge of clumps and mixed borders. Of the two, the latter is much the smaller plant, with spreading habit and attaining only the height of one foot. They are both hardy and well adapted to our climate.

The variegated forms of this group of Conifers are very numerous, but as they are not especially interesting to the American planter they are omitted from this list. Others again differ from the species in being more slender in growth or dense in habit, etc. There is here a broad field for experiment and research, and Japanese gardeners have not been idle in hunting them up. Their collection of these pretty little oddities is almost beyond number. Many of them, however, are of no possible use for gardening effect, and their culture here would be a mere waste of time and money.

West Chester, Pa. *Josiah Hoopes.*

*Journal Linn. Soc., xviii. 473.

Snowberry Jelly.

MY attention was recently called to an interesting use of the Creeping Snowberry (*Chiogenes hispidula*, Torr. and Gr.) which may prove of sufficient novelty to warrant calling attention to it. A friend forwarded a small pot of jelly, with the request that information be given as to the material of which it was composed.

A superficial examination showed the jelly to be of the color of amber, and about the consistency of Guava jelly. This I subsequently learned to be due to an accident, owing to which very considerable consolidation had followed. The normal consistence is that of ordinary Currant jelly. The upper portion of the mass was quite clear, while at the bottom were numerous small seeds and much pulpy matter, giving a very peculiar character to the preparation, without, however, destroying its value. Upon submitting it to the taste, the flavor was found to be distinctly that of *Gaultheria*, although I have since been somewhat surprised to learn that so distinctive a flavor had not been recognized by several persons. Upon boiling out the pulpy deposit, it was found to consist of the berries constituting the material employed. Many of these were quite whole, so that their true nature was determined without much difficulty, and as we later learned that the berries in the fresh state were perfectly white, it was easy to refer them to the common Creeping Snowberry.

It appears that in Newfoundland, whence the jelly was obtained, it is a common practice with many families to prepare this exceedingly delicate preserve, but the scarcity of the berries,

to collect one quart of which an entire day is required, renders it a luxury, and to obtain more than a small quantity is difficult.

The comestible qualities of these berries are well known, and are referred to by Purvancher, "Baies d'un blanc pur à la maturité, très sucrées, comestibles."

The same author further remarks that "Les feuilles et les fruits ont une saveur analogue à la Gaulthéria ou à l'écorce du Bouleau-Merissier. On en fait des infusions d'un goût fort agréable, dont on use en guise de thé dans certains endroits de nos Campagnes."* It is also of interest to note that the local name of this plant, i. e., in Newfoundland, is Capillaire.

The use of the berries of Chiogenes as a source of jelly, suggests that the fruit of its near relative, Gaultheria, which is certainly more abundant, might be utilized in a similar manner with equally good results.

McGill University, Montreal, March 17th, 1888. *D. P. Penhallow.*

Correspondence.

"Landscape Gardening—A Definition."

To the Editor of Garden and Forest:

Sir.—The thoughtful article under the above caption in the first number of Garden and Forest is needed to correct a current misconception concerning the sphere of the landscape gardener. Mere ingenious design, skillful arrangements of bedding plants and conspicuous eccentricities, are frequently mistaken for landscape gardening. Many self-styled landscape gardeners are responsible for this absurd error. They hide and destroy the very art which they profess to cultivate. Flower beds, fountains, and other objects which should be mere accessories, are made the leading features in many parks. To these objects the people point as examples of landscape gardening! With the same reason one might call a handsome dormer-window a complete example of architecture!

As Fine Art is a conception of the mind, it follows that, in order to render it material, tangible, we must employ some mechanical or industrial art. The architect depends upon the carpenter and mason for the labor of construction. So landscape gardening, the Fine Art, depends upon the industrial art which shapes the ground, plants the trees, makes the walks and drives. This industrial art is no doubt a legitimate branch of horticulture. It is the sphere of the artisan. To call this artisan an artist, a landscape gardener, is like calling the amanuensis who writes the conceptions of Longfellow a poet. In my own teaching I have given this industrial art the name Landscape Horticulture, for such it is. Nearly all our professed treatises upon landscape gardening do little more than designate the most important rules and operations of landscape horticulture. This is the case largely of necessity, for it is a difficult matter to give adequate instruction in a Fine Art. It does not deal in formulas. But horticulture allows of closer rules, and for convenience of treatment I divide it into four broad divisions: Pomology, Olericulture or Vegetable Gardening, Floriculture, Landscape Horticulture.

Michigan Agricultural College. *L. H. Bailey.*

Fraxinella.

To the Editor of Garden and Forest:

Now when garden-lovers are beginning to think about plants for the coming season, and when so many new ones are being brought to their notice through your columns, may I say a word in behalf of an old flower which ought to be more often seen?

Fraxinella (*Dictamnus Fraxinella*), a native of Southern Europe and some parts of Asia, has been cultivated for fully three centuries in England and was esteemed by our grandmothers with the best of those flowers which we call "old-fashioned." To-day it seems almost forgotten. I have chanced to see it only once—in a garden near Boston—and although I have spoken of it to many persons, I have met none, except the owners of this garden, to whom it was familiar.

It belongs to the Rue Family, and is a perennial herb with an almost woody base and very graceful foliage—the pinnate leaves with many serrate leaflets, like those of the Ash on a smaller scale, having given rise to its common name. The flowers are rather large and borne in a long terminal raceme in summer. In one—the prettiest—variety, they are white; in the other, Gray, in the "School and Field Book of Botany," describes them as "pale purple with reddish veins," but I should call them dull pink with reddish veins. Their irregular shape—unique in the Rue Family—their size and arrangement, suggest in some degree the Larkspur, but Fraxinella is more delicate and graceful. Its chief distinction lies, however, in its odor. Gray calls this odor "strong and aromatic," and it is this and more—very strong, very aromatic, very sweet, and quite unlike the scent of any of our common garden-blossoms. There is a hint of vanilla about it, and a certain richness and penetrating quality which betray its southern origin. Yet, although rich, it is not heavy, but as fresh as the smell of lavender. Fraxinella is also an object of interest from the fact that the volatile oil generated by its flowers is so strong that on warm, still, summer evenings a lighted match held a foot above them will cause a flame to burst forth.

Philip Miller, in his "Gardener's Dictionary," published in 1724, says of Fraxinella: "These plants continuing a long time in Beauty, are very great Ornaments to a Garden; and their being very hardy, requiring but little Culture, renders them worthy of a Place in every good Garden." *Pequot.*

New London, Conn.

[*Dictamnus Fraxinella* ought not to be uncommon in American gardens. It deserves a place in every collection, however select, of hardy herbaceous plants. It is easily propagated by seed or division, and will flourish in any garden soil.—Ed.]

* Flore Canadienne, 363.

The Forest.

Forest Trees of the Far North-west.

These notes refer to an area which includes the extreme western part of British Columbia, with adjacent portions of the North-west Territory, as well as part of the "Coast strip" or southern part of Alaska. The area is embraced in a general way by 56° 30′ and 63° north latitude, the 128th and 138th degrees of west longitude. Through this almost unknown portion of the continent a geographical and geological reconnoissance was carried last summer by the writer, on behalf of the Geological Survey of Canada.

The region in question is drained by the Stikive and other rivers which flow through the coast ranges to the Pacific, by the Liard, a main tributary of the Mackenzie, and by several branches of the Yukon. These large rivers form routes of travel through the country, but the several drainage basins do not constitute regions of diverse Floras. The great division from this point of view, is found between the humid climate of the coast and the relatively dry and extreme climate of the interior; the first constituting the continuation of the botanical region of the British Columbian coast, the second that of the interior of the same province. The considerable altitude of the interior also has its influence on the vegetation. The average "base level" or valley level of the interior is about 2,500 feet. Difference of latitude shows a comparatively small effect, in consequence of the fact that the country as a whole becomes lower northward. The region may, generally speaking, be described as mountainous, though there are as well large tracts of low lands and the river valleys are generally quite wide.

The chief facts to be recorded with respect to the distribution of trees are those bearing on the northern limits of the well known western forms, the number of species represented so far north being quite restricted. In the interior region, which may be treated as a whole, the Douglas Fir, Engelmann's Spruce, the Hemlock (*Tsuga Mertensiana*) and the red Cedar (*Thuya gigantea*), all common and characteristic trees a few degrees to the south, are nowhere found. The White and the Black Spruce (*Picea alba* and *P. nigra*), Balsam Fir (*Abies subalpina*), Aspen (*Populus tremuloides*) and Cottonwood (*Populus trichocarpa* probably with *P. balsamifera*) occur in suitable localities over the whole region east of the Coast Mountains, the two first-mentioned trees constituting probably half the entire forest-covering of the country.

The White Spruce, along the rivers and in low ground, forms fine well grown groves in which many trees attain a diameter of two feet, to the most northern point reached, and affords timber of fair quality. It is found with *Abies subalpina* at the upward limit of forest growth on the inland mountains, about 4,200 feet. The Black Spruce has scarcely received mention in previous notes on the distribution of trees in British Columbia, but is now known to be abundant locally on high plateaus about the region of the upper Fraser, and in the country here described is common in swampy places and along shaded river-banks with a northern exposure. It attains a considerable height, but is never large enough to afford good lumber. *Abies subalpina* was found wherever the upper limit of trees on the mountains was approached, but was not observed near the rivers, except on Bennett Lake, near the head of the Lewes, in latitude 60°, where it is very abundant. The Aspen is especially characteristic of second-growth woods and dry open grassy hillsides, of which there are many along the Pelly and Lewes branches of the Yukon. The Cottonwood here

represented is, in so far as the specimens brought back can be determined, *Populus trichocarpa*, but there is little doubt that the Balsam Poplar also occurs. Trees six feet in diameter were seen on the Stikive River, but further inland they were very rarely found to reach a diameter of three feet.

Greater interest, from a botanical point of view, attaches to the trees of which the ranges are more restricted. The Black Pine (*Pinus Murrayana*), so common in the interior to the south, is also pretty widely distributed in this northern country. It is found in abundance on the Stikive immediately to the east of the coast mountains and thence inland. It was observed on the Dease and Upper Liard, and from the mouth of the Dease (according to specimens sent back by Mr. R. G. McConnell), down the Liard to Devil's Portage, some miles east of the range which appears to represent the northern continuation of the Rocky Mountains proper. Further east, the Banksian Pine becomes characteristic of the great valley of the Mackenzie, which is here entered; but this tree does not extend to the west of the Rocky Mountains, on the head-waters of the Liard. *Pinus Murrayana* reaches nearly to Finlayson Lake, its most northern source, but does not occur on the Upper Pelly, in descending which it was first met with in longitude 133° 30′. From this point, down the Pelly and up the whole length of the Lewes, it is moderately abundant. On the authority of Mr. W. H. Dalls the northern limit of this tree has been given as at the confluence of the Pelly and Lewes (lat. 62° 49′), but as it there shows no sign of having reached its extreme point, it may probably be found some distance further northward in the Yukon Valley, though not as far as the mouth of the Porcupine, in latitude 66° 33′.

The known range of the common Larch (*Larix Americana*) has by the observations of the past summer been definitely carried to the west of the Rocky Mountains. It extends westward on the Dease River to a point twenty-two miles above the mouth of that stream, and along the upper Liard and Frances Rivers spreads northward nearly to Finlayson Lake, reaching latitude 61° 35′. Between these limits it is abundant and characteristic of cold, swampy ground. It was looked for all along the Pelly, but not found either on this or the Lewes branch of the Yukon. It appears probable, however, that this tree will eventually be proved to characterize the sub-arctic country, further to the north, from the Mackenzie Valley nearly to the shores of Behring Sea, as Dall, in his well known work on Alaska, mentions the occurrence of a Larch on the lower Yukon (as *L. microcarpa?* and *L. Davurica?*), which can scarcely be any other than this species. *Larix Lyallii*, which about the 49th and 51st parallels in the Rocky Mountains is the most characteristic tree at the timber-line, was not found in the region now in question and would therefore appear to be a relatively southern mountain species.

The Birch (*Betula papyrifera*) was first seen to the east of the coast mountains in the Stikive Valley and occurs sporadically along the river-valleys throughout the interior. It is quite abundant on Frances Lake, near the head of the Liard, but was not observed on the upper Pelly east of the 131st meridian.

Juniperus Virginiana was observed as a small tree, with trunks six inches in diameter, at Telegraph Creek on the Stikive in the dry country in the lee of the coast mountains, but was not elsewhere found in an arboreal form. The Alder (probably *Alnus rubra*) and one or more species of Willow become small trees along some of the rivers of the interior, the Alder being noted as specially abundant and large on the Pelly above the mouth of the Lewes.

As already noted, the timber-line was found to be at about 4,200 feet on the mountains of the interior near the watershed between the Liard and Pelly (lat. 61° 30′). At a similar distance from the Pacific coast, in the corresponding range of the Cordillera in latitude 51°, this line is at an altitude of about 7,000 feet, showing a descent to the north of 2,800 feet in ten and a half degrees of latitude, or about 280 feet for each degree.

It is generally stated that the influence of the warm waters of the Pacific "Gulf stream," reaching the northern part of the west coast and flowing southward along it, is such as to produce a nearly identical climate and Flora from the Strait of Fuca far to the north. While this is true in a general way, it is a mistake to suppose that no effect is produced by increasing latitude. The most marked change of climate, as indicated by the arboreal vegetation, nearly coincides with Dixon Entrance and the 54th parallel. North of this the forest is usually inferior in growth and the quantity of marketable timber is much smaller. The Red Cedar (*Thuya gigantea*) is not found in any abundance, north of the latitude of the mouth of the Stikive, and though closely looked for along the coast in the vicinity of Lynn Canal, no single specimen of it was detected there.

The Yellow Cedar (*Chamæcyparis Nuktaensis*) scarcely reaches Sitka, and is not anywhere found among the inner islands near the entrance of Lynn Canal. The Alder (*Alnus rubra*) forms groves along the shores at least as far north as latitude 59°. The western Crab-apple (*Pyrus rivularis*) occurs here and there as far north as Lynn Canal. The Broad-leaved Maple (*Acer macrophyllum*) may reach latitude 55° as stated by Prof. Sargent in his Census report, but was not observed by me, and must be rare. North of the Prince of Wales Archipelago, eight-tenths of the entire forest of the coast region appears to consist of the single tree Menzie's Spruce (*Picea Sitchensis*).

Pinus contorta was noted at the head of Lynn Canal and elsewhere along the coast. Here also, in the valley of the stream on the west side of the Chilkoot or Perrier Pass, by which the coast mountains are crossed, *Tsuga Pattoniana* grows to a fair size and forms entire groves. It was found as well within a few hundred feet of the summit of the pass at an altitude exceeding 3,000 feet, in a prostrate form, but still frequently bearing cones. *Abies amabilis* (?) was also noted in the valley of the west slope of the pass and occurs along Lynn Canal and other parts of the coast. Unfortunately no cones of this tree were found.

I am indebted to Prof. J. Macoun and Prof. C. S. Sargent for the determination of most of the specimens of trees collected.

George M. Dawson.

The Forests of New Jersey.

PROFESSOR Geo. H. Cooke, Director of the State Geological Survey of New Jersey, states in a recent report that the total area of woodland in that State amounts to 2,069,805 acres, or 41.5 per cent. of the total area of the State. The growing of Chestnut timber for railroad ties on the untillable lands of northern New Jersey is recommended, as there is always a demand for them by the numerous railroads crossing the State in every direction. Chestnut stump-land sells for from $1.00 to $5.00 per acre, a growth of thirty years at from $10.00 to $30.00 an acre; of fifty years from $25.00 to $50.00 an acre. But in many cases good growths, accessible to markets, have sold at figures three to four-fold greater. The value of the timber depends much on the soil and the location. The time required to grow ties and telegraph poles will average about thirty years. In the northern part of the State the Chestnut grows naturally, and brings the quickest and best returns, although Oak is more valuable when grown. It has been demonstrated that Locust timber can be grown with profit on the 250,000 acres of waste land on the cretaceous formation. It is possible to raise on good land a crop worth $3,000 per acre in thirty years, and returns at the rate of $2,000 are not uncommon. The growing of White Cedar timber is generally recognized as profitable. The value of stump-land is from $5.00 to $10.00; of twenty years' growth of timber from $5.00 to $50.00; of thirty-five years from $15.00 to $200.00; and of fifty years growth from $75.00 to $400.00. Of course, location and size have much to do with the price. A swamp of seventy years' growth recently sold for $800.00 per acre.

The Pitch Pine (*Pinus rigida*) in the southern and central parts of the State attains a size suitable for firewood in about fifteen or twenty years. It is commonly estimated that it will produce as many cords per acre as it has been years in growing. The present value of Pine wood per acre standing averages about $1.00. When the timber becomes larger, its value per cord increases, and it finds a market for lumber and lath, for piling and other purposes. The following figures are from estimates of men familiar with the Pine forests, and the wide range is due to difference in accessibility and the producing power of the land. Pine stump-land ranges from $0.10 to $5.00 per acre. Of course, this does not include the figures from localities where the land has a value of from $10.00 to $25.00 per acre for cultivation. The value of thirty years' growth of timber is from $5.00 to $25.00; of fifty years' from $10.00 to $100.00. Taking figures pertaining to the average of the better two-thirds of Pine land as a guide, the present conditions would give about the following results:

Cost of stump land, per 100 acres,	$250.00
Taxes on average value, 30 years,	448.00
Policing and protection, 30 years,	120.00
Interest, at 6 per cent.,	450.00
Total expenditure,	$1,268.00
Value of 30 years' growth, for 100 acres,	2,500.00
Value of stump land,	250.00
Total value,	$2,750.00
Profit,	1,482.00

The interest on annually paid expenses is supposed to be offset by increase in value of stump land.

It is not to be supposed that proper protection and attention will not greatly increase the above profit. These figures represent the present values, depreciated by the results of neglect, and the uncertainty and loss caused by fires.

Monsieur Viette, the French Minister of Agriculture, by a recent decree has reduced the Forest School at Nancy to a subordinate branch of the National Agricultural Institute, an arrangement which not only destroys all independence in the management of the school, but compels its pupils to pass an examination in the theory and practice of agriculture—an unnecessary waste of time, it is claimed.

This radical and apparently unwise measure calls forth a loud protest from all the friends of the forest administration in France, who see in it a serious blow to the efficiency both of the school and the management of the forests. This famous school was established by the French Government in 1827. In it have been trained the officers who have made French forests and French forestry what they are, and here have been educated a large part of the Englishmen who have so ably seconded Dr. Brandis and his successors in their Indian forest administration. Any official interference that will impair the value of the Nancy school is a misfortune which must be felt far beyond the limits of France.

Recent Plant Portraits.

Botanical Magazine, February.

Amorphophallus virosus, *t.* 6978; a native of Siam.

Cœlogyne Massangeana, *t.* 6979; a native of Assam and closely allied to the Bornean *C. aspirata*, which it resembles in its large showy flowers borne in drooping racemes a foot long.

Salvia scapaformis, *t.* 6980; a native of Formosa, with rather small, clear blue flowers.

Aloe Hilderbrandtii, *t.* 6981; a native of east tropical Africa.

Oncidium Jonesianum, *t.* 6982; a native of Paraguay and considered by Sir Joseph Hooker "by far the handsomest species of the small group to which it belongs and of which the type may be considered to be the long-known *O. Cebolleta* of the Spanish Main."

March.

Vanda Sanderiana, *t.* 6983; a free flowering, showy species from the Philippine Islands.

Primula geranifolia, *t.* 6984; a neat species with small purple flowers, perfectly hardy at Kew.

Mesembryanthemum Brownii, *t.* 6985.

Heloniopsis Japonica, *t.* 6986; a dwarf, hardy, liliaceous plant, a native of Japan and Corea, with the habit of a large-flowered *Scilla*, and drooping, racemose, deep pink flowers.

Onosma pyramidalis, *t.* 6987; a native of the western Himalayas, "a very handsome plant, conspicuous for the bright scarlet of the flowers, which turn of a mauve-purple as they wither;" not hardy at Kew.

Massachusetts Horticultural Society.

THE Spring Exhibition of this Society was held at Boston last week and was most successful in the abundance and quality of the bulbous plants and flowers displayed, owing to the medals and special prizes offered to promote the cultivation of this class of plants. In form and color these flowers distinctly excelled the exhibits of former years. Cut blooms of Roses of all classes made another striking feature, and with them were a few well grown plants in bloom of the beautiful but scentless "Her Majesty." Orchids were not so numerously shown as at some former exhibitions, although there were some notable specimens in the collection. A fine *Dendrobium nobile*, exhibited by Norton Brothers, showed more than 800 flowers. An Appleton medal was awarded to this vigorous plant. C. M. Atkinson, gardener of Mr. J. M. Gardner, contributed a *Cattleya intermedia* with forty flowers, and W. A. Manda sent a *Dendrochilum glumaceum* with as many spikes. A few examples of the late and rare *Odontoglossum Pescatoria* came from the collection of Mr. H. H. Hunnewell, as did a striking plant of *Gloneria jasminiflora*. The Heaths and Azaleas were especially good. Complaint was made of insufficient room for the proper display of contributions, but the plants and flowers were tastefully arranged, so far as the accommodations would permit.

Flower Market.

New York, *March 23d.*

The dullness in trade, and glut of cut flowers early this week, is almost unprecedented in the experience of Metropolitan florists. American Beauty Roses have been sold at 6 cts. each wholesale, and retailed for 25 cts. Jacqueminots were sold for 2 cts. wholesale. This, of course, was not for selected stock. Syringa, Mountain Laurel and Heath, growing in pots, are brought in for Easter novelties. Rhododendrons, Azaleas and Genesta of great beauty also appear. Plants of Mountain Laurel cost $3; Heath, from $2.50 to $5; Genesta, $2.50, and Rhododendrons, noticeably Cunningham's White, are $4. Beauty of Waltham Roses have been added to the galaxy of hybrids; they are $5 a dozen. Fine La France Roses sell for that price, but this Rose daily declines in favor. Puritans have improved, and are very large and perfect. They cost 50 and 75 cts. each. Jacqueminots, selected, bring from $1 to $3 a dozen. Hybrids sell from $3 to $5 a dozen, according to quality. Gardenias are in good demand at 25 cts. each. *Narcissus poeticus* is $2 a dozen. Dutch Hyacinths cost from $1.25 to $1.50 a dozen. Lilacs are $1.25 and $1.50 a bunch of the best stock. Neapolitan Violets are plentiful, and cost from 75 cts. to $1 a hundred. Marie Louise and White Violets sell for from $1 to $1.50 a hundred. Mignonette costs from $1.20 to $1.50 a dozen spikes. Smilax is 40 and 50 cts. a string. *Asparagus plumosus* is $1 a string, and *A. tenuissimus* 75 cts. a string. There are few or no orders for designs for Easter offerings or memorial tokens for the altar. Boxes of cut bloom are preferred for gifts, and expressive arrangements of plants and flowers on the altar *in memoriam* will be the rule.

Philadelphia, *March 23d.*

From one part of the city comes the report that the past two weeks has been the dullest known for many years. Happily this does not represent the state of the trade in general. The demand for flowers, though not excessive, has been satisfactory. Some very large, fine and highly-colored Magna Charta Roses are to be seen in the florists' windows; also a few exquisitely formed and tinted Captain Christys. It is surprising there are not more of the latter grown, for it certainly is one of the most beautiful varieties. A seedling Rose of European origin is on trial in this city, which promises to be widely known if it can be grown generally as well as a specimen flower which was exhibited here a few days ago. It is said to be a true Tea; but if the flower itself were seen without foliage no one would suspect a drop of Tea blood in it except perhaps from its color. It is rather a difficult tint to describe, reminding one—without an opportunity for close comparison—of Bourbon Queen. In form it is almost perfect, being cup-shaped, similar to Baroness Rothschild, opening regularly and full to the centre. It is very large, and altogether a remarkable Tea Rose. Tulips are in demand at $1 per dozen, as also are Lilies-of-the-Valley, and Daffodils at same price. Extra fine Mignonette sells at $3 per dozen. This comes from Summit, N. J. *Primula obconica* is offered in limited quantities at 75 cts. per dozen. This is quite new here as a cut flower. Smilax has become scarce. A supply from other cities will have to be obtained for Easter. Orchids are grown in very limited quantities in this city. The stock carried by the leading florists is obtained from New York and Boston. Of Roses, Md. Gabriel Luizet sells from $6 to $9 per dozen; Captain Christy and Magna Charta, $4 to $6 per dozen; Mrs. John Laing, $4 per dozen. Heath, per dozen sprays, $3. Jacqueminots are good, and sell from $3 to $5 per dozen. American Beauties are improving in quality, and are not displaced by the hybrid Remontants, as was predicted would be the case at this season of the year. They sell at from $3 to $6 per dozen. Longer stems are being cut of the Beauty than can be cut with the Remontants. Fine Puritans are better than the best Merveille de Lyons just now. Spring flowers generally are very popular. A few bunches of Trailing Arbutus were noticed in some stores. It is a great favorite in this city.

Boston, *March 23d.*

The severe storm had a demoralizing effect on the cut flower trade here and the florists here have found it a rather dull time ever since. Prices have not changed much since last report, some varieties being quoted at a slight reduction. By the time this report appears it is probable that Easter prices will be more acceptable than those of the present moment. Lilies of various kinds will be fairly abundant and quality will be of the best. Harris's Lilies and "Longiflorums" will cost from $5.00 to $6.00 per dozen on long stems, Ascension Lilies (*L. candidum*), from $2.00 to $3.00 per dozen. The price of Lilies-of-the-Valley, Tulips, Narcissus and similar flowers will increase but little, from $1.00 to $1.50 per dozen being the price now asked in advance. Callas have been blooming very heavily and the prospect is not encouraging for a large supply. Florists are now asking $6.00 per doz. for Easter delivery. In roses there will be a magnificent supply. Some of the best growers of Jacqueminots and other hybrids have timed their houses to bring the height of the crop in at Easter, and there will be no lack of good material for Rose fanciers to select from. Those who are regardless of expense will find fancy varieties as high as $10.00 to $12.00 per dozen while more modest customers can get Bon Silene, Safrano, Niphetos and other fragrant and pretty kinds for $1.00 to $1.50 per dozen. Large Ferns, Massive Palm foliage, Laurel, Smilax and other greens will be used largely for decorative purposes. The usual supply of Marguerites, Mignonette, Carnations, Forget-me-nots, Pansies, Violets, etc., for mixing with assortments of cut flowers, will be offered in abundance.